APPLICATION FOR SCIENTIFIC STUDY IN BAXTER STATE PARK

1. TITLE: Response of spruce beetle and other native and non-native bark and wood boring insects to a severe blowdown in North Central Maine

2. NAME OF RESEARCHER: Shawn Fraver (University of Maine), with Laura Kenefic, Robert Seymour, Kevin Dodds, and Rick Morril as cooperators

3. RESEARCHER'S CREDENTIALS: Ph.D. in Forest Resources

4. BENEFITS TO BE DERIVED FROM RESEARCH: Risk assessment for spread of wood-boring insects following a recent high-severity blowdown in Baxter's SFMA. In addition, we will provide findings directly to the SFMA staff to help inform decisions regarding future management approaches aimed at reducing adverse impacts from similar events.

5. DETAILED DESCRIPTION OF RESEARCH: The severe blowdown that occurred within Baxter's SFMA (July 19, 2013) and the salvage logging that followed create three 'treatments' that we intend to compare with respect to insect activity and forest structure: *Blowdown, Blowdown–Salvage,* and *Undisturbed.* Within each treatment, we will install traps to collect wood-boring beetles, thereby assessing the population sizes of a variety of potential pest species. We will also characterize the forest structure in each of these three treatment areas. Finally, we will characterize the entire blowdown area using aerial photographs, permitting a large-scale assessment of insect activity and forest structure.

6. AREA OF THE PARK FOR THE RESEARCH: The research will take place entirely within the SFMA.

7. IMPACT ON THE PARK: During the field seasons of 2014-15, a two-person field crew would be working within the SFMA, coordinating activities with SFMA staff. That work would involve non-destructive field inventories and insect trapping, that is, no negative impact to the Park.

8. BUDGET: $67,035 over two years, from the US Forest Service, Forest Health and Monitoring Program (*Proposal Pending)*

9. TIMETABLE FOR RESEARCH AND COMPLETION OF APPLICATION: Our work will occur in overlapping stages: (1) photo interpretation and ground-truthing of damaged area (Spring–Summer 2014); (2) field sampling and analysis of insect activity and forest structure (Summer 2014 and Summer 2015); and (3) production and dissemination of results *via* presentations and publications (Winter–Spring 2016).

DATE: 11 March, 2014